Element Materials Technology - Fort Wayne
328 Ley Rd.
Fort Wayne, IN 46825
TEL: (260) 424-1622 FAX: (260) 424-9124
Website: www.element.com

June 25, 2019

Nickie Geros
East Chicago Sanitary District
5201 Indianapolis Blvd
East Chicago, IN 46312
TEL: 219-391-8466
FAX:

RE: #901 Order No.: 19062016

Dear Nickie Geros:

Element Materials Technology - Fort Wayne received 2 sample(s) on 6/18/2019 for the analyses presented in the following report.

In accordance with your instructions, Element Materials Technology Indiana conducted the analysis shown on the following pages on samples submitted by your company. The results relate only to the items tested. Unless otherwise noted, all analysis was conducted using approved methodologies from EPA, SM, or other client-specified methods. All relevant sampling information is on the attached chain-of-custody form. The initials SUB as the analyst designate any testing sub-contracted by Element Materials Technology Indiana.

This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Ryan Fitzwater
General Manager
328 Ley Rd.
Fort Wayne, IN 46825

Element Materials Technology - Fort Wayne
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Fort Wayne, IN 46825
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Website: www.element.com

Case Narrative

WO#: **19062016**
Date: **6/25/2019**

CLIENT: East Chicago Sanitary District
Project: #901

OIA-1677 Available Cyanide subcontracted to TestAmerica. The subcontract data report is attached in its entirety.

Element Materials Technology - Fort Wayne
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Analytical Report

(wastewater)

WO#: **19062016**

Date Reported **6/25/2019**

CLIENT: East Chicago Sanitary District
Project: #901
Lab ID: 19062016-001
Client Sample ID #901
Sample Location:

Collection Date: 6/17/2019 8:51:00 AM
Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	PL	Date Analyzed
OIL AND GREASE, TOTAL				**E1664**			Analyst: **JGB**
Oil & Grease, Total	7.9	5.0		mg/L	1	50.0	6/19/2019 9:00:00 AM
OIL AND GREASE, NON POLAR				**E1664**			Analyst: **JGB**
Oil & Grease, Petroleum	6.5	5.0		mg/L	1	50.0	6/25/2019 5:05:25 PM
SV COMPOUNDS FOR CATEGORICAL RQTS				**E625**			Analyst: **GB**
Bis(2-ethylhexyl)phthalate	< 0.10	0.10		mg/L	10	0.16	6/23/2019 7:07:00 PM
Carbazole	< 0.10	0.10		mg/L	10		6/23/2019 7:07:00 PM
Fluoranthene	< 0.050	0.050		mg/L	10	0.054	6/23/2019 7:07:00 PM
n-Decane	< 0.10	0.10		mg/L	10		6/23/2019 7:07:00 PM
n-Octadecane	< 0.10	0.10		mg/L	10		6/23/2019 7:07:00 PM
SEMI-VOLATILES IN WW				**E625**			Analyst: **GB**
Phenanthrene	< 0.10	0.10		mg/L	10		6/23/2019 7:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
PQL	Practical Quantitation Limit	RL	Reporting Detection Limit

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Analytical Report

(wastewater)

WO#: **19062016**

Date Reported **6/25/2019**

CLIENT: East Chicago Sanitary District
Project: #901
Lab ID: 19062016-002
Client Sample ID #901
Sample Location:

Collection Date: 6/17/2019 8:51:00 AM
Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	PL	Date Analyzed
FLUORIDE					**E300.0**		Analyst: **SKW**
Fluoride	5.3	0.1	*	mg/L	1	2.9	6/20/2019 2:52:00 PM
CHEMICAL OXYGEN DEMAND					**M5220 D**		Analyst: **DDE**
Chemical Oxygen Demand	684	10.0		mg/L	1		6/20/2019 2:03:00 PM
AMMONIA AS N					**E350.1**		Analyst: **AJE**
Nitrogen, Ammonia (As N)	43.2	0.400		mg/L	4	77.0	6/20/2019 11:54:00 AM
PHENOLICS IN WASTEWATER					**E420.1**		Analyst: **MNK**
Phenolics, Total Recoverable	0.064	0.025		mg/L	1	0.700	6/22/2019 2:01:23 PM
TOTAL PHOSPHORUS					**M4500-P F**		Analyst: **AN**
Total Phosphorus	0.248	0.100		mg/L	1	5.50	6/20/2019 3:54:29 PM
TOTAL SUSPENDED SOLIDS					**M2540 D**		Analyst: **DDE**
Suspended Solids (Residue, Non-Filterable)	34	10		mg/L	1		6/21/2019 1:34:00 PM
MERCURY					**E245.1**		Analyst: **SF**
Mercury	< 0.00010	0.00010		mg/L	1		6/20/2019 2:32:43 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
PQL	Practical Quantitation Limit	RL	Reporting Detection Limit

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-91464-1
Client Project/Site: Cyanide 19062016

For:
Element Materials Technology
328 Ley Rd
Suite100
Fort Wayne, Indiana 46825

Attn: Katie Hernandez

Authorized for release by:
6/24/2019 10:46:29 AM

Dominic Nestasie, Manager of Project Management
(412)963-2453
dominic.nestasie@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416

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Job ID: 180-91464-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-91464-1

Receipt
The sample was received on 6/19/2019 at 8:45 AM; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at time of receipt was 3.1° C.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Element Materials Technology
Job ID: 180-91464-1
Project/Site: Cyanide 19062016

Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State		2891	04-30-20
California	State Program	9	2891	04-30-20
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Florida	NELAP		E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Illinois	NELAP		004375	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Kentucky (UST)	State Program	4	162013	04-30-20
Kentucky (WW)	State Program	4	KY98043	12-31-19
Louisiana	NELAP	6	04041	06-30-19
Nevada	State		PA00164	07-31-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-20
New Jersey	NELAP	2	PA005	06-30-19
New Jersey	NELAP		PA005	06-30-19 *
New York	NELAP	2	11182	03-31-20
New York	NELAP		11182	04-01-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	02-06-20
Oregon	NELAP		PA-2151	02-06-20
Pennsylvania	NELAP	3	02-00416	04-30-20
Pennsylvania	NELAP		02-00416	04-30-20
South Carolina	State Program	4	89014	04-30-20
Texas	NELAP	6	T104704528-15-2	03-31-20
Texas	NELAP		T104704528	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
US Fish & Wildlife	US Federal Programs		058448	07-31-20
USDA	Federal		P330-16-00211	06-26-19
USDA	US Federal Programs		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19 *
Virginia	NELAP	3	460189	09-14-19
Virginia	NELAP		10043	09-14-19
West Virginia DEP	State		142	01-31-20
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State		998027800	08-31-19
Wisconsin	State Program	5	998027800	08-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-91464-1	19062016-001A	Water	06/17/19 08:51	06/19/19 08:45	

Method Summary

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

Method	Method Description	Protocol	Laboratory
OIA - 1677	Available Cyanide by Flow Injection, Lig	EPA	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

Client Sample ID: 19062016-001A
Date Collected: 06/17/19 08:51
Date Received: 06/19/19 08:45

Lab Sample ID: 180-91464-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			282494	06/20/19 15:16	CAK	TAL PIT
	Instrument ID: ALPKEM3									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Analysis

CAK = Chuck Kieda

Client Sample Results

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

Client Sample ID: 19062016-001A
Date Collected: 06/17/19 08:51
Date Received: 06/19/19 08:45

Lab Sample ID: 180-91464-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Available	0.055		0.0020	0.00036	mg/L			06/20/19 15:16	1

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

Method: OIA - 1677 - Available Cyanide by Flow Injection, Lig

Lab Sample ID: MB 180-282494/45
Matrix: Water
Analysis Batch: 282494

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Available	ND		0.0020	0.00036	mg/L			06/20/19 15:14	1

Lab Sample ID: LCS 180-282494/44
Matrix: Water
Analysis Batch: 282494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Available			0.0501	0.0505		mg/L		101	82 - 132		

Lab Sample ID: 180-91464-1 MS
Matrix: Water
Analysis Batch: 282494

Client Sample ID: 19062016-001A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Available	0.055		0.0501	0.0987		mg/L		88	82 - 130		

Lab Sample ID: 180-91464-1 MSD
Matrix: Water
Analysis Batch: 282494

Client Sample ID: 19062016-001A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Available	0.055		0.0501	0.102		mg/L		93	82 - 130	3	11

QC Association Summary

Client: Element Materials Technology
Project/Site: Cyanide 19062016

Job ID: 180-91464-1

General Chemistry

Analysis Batch: 282494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-91464-1	19062016-001A	Total/NA	Water	OIA - 1677	
MB 180-282494/45	Method Blank	Total/NA	Water	OIA - 1677	
LCS 180-282494/44	Lab Control Sample	Total/NA	Water	OIA - 1677	
180-91464-1 MS	19062016-001A	Total/NA	Water	OIA - 1677	
180-91464-1 MSD	19062016-001A	Total/NA	Water	OIA - 1677	

element

CHAIN OF CUSTODY RECORD

Omega COCID 121401	PAGE: 1	OF: 1

ADDRESS
Element Materials Technology - Fort Wayne
328 Ley Rd.
Fort Wayne, IN 46825
TEL: (260) 424-1622
FAX: (260) 424-9124
Website: www.element.con

SUB CONTRATOR: TEST_AMERICA COMPANY: Test America	SPECIAL INSTRUCTIONS / COMMENTS:
ADDRESS: Sample Receiving	
CITY, STATE, ZIP: Nashville, TN 37204	
PHONE: (800) 765-0980 FAX: (615) 726-3404 EMAIL:	
ACCOUNT #:	PO# EFW032249

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	19062016-001A	#901	500HDPENAOH	Wastewater	6/17/2019 8:51:00 AM	1	
	CYAN_FREE						

180-91464 Chain of Custody

Relinquished By: [illegible]	Date: 6/18/2019	Time: 1510	Received By:	Date: 6/19/19	Time: 845
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

Note: RUSH requests will incur surcharges!

REPORT TRANSMITTAL DESIRED:

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples _____ °C Attempt to Cool ? _____

Comments: _____

7755-0403-9706

Login Sample Receipt Checklist

Client: Element Materials Technology

Job Number: 180-91464-1

Login Number: 91464
List Number: 1
Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

element S46

Chain of Custody W195

Laboratory Number: 1906 2039

	Client Information:	Billing Information:	PO Number:	Project Name/Number:
Company Name:	East Chicago Sanitary District	Same		TUESDAY Project #4
Contact Name:	Nelson Cardona		Quote Number:	
Address:	5201 Indianapolis Blvd			Sampler's Signature: J. Cardona Comp; T. Bri Grab
City, State Zip:	East Chicago IN 46312		Required QC Level	
Phone Number:	219-391-8466 Ext. 240	Ext:	Bill Monthly ☐Yes ☐No	Shipping Method: ELEMENT
Fax Number:				
E-mail Address:	ncardona@eastchicago.com			

Page 1 of 21

Page 18 of 18

Matrix Code

DW = Drinking Water
WW = Waste Water
GW = Ground Water
AQ = Aqueous
OT = Other
SL = Sludge SOL = Solid
O = Oil SO = Soil
F = Food SW = Swab
NG = Natural Gas
NGL = Natural Gas Liquid
PW = Produced Water
CF = Completion Fluid

Which Regulations Apply:
☐RCRA ☐Drinking Water
☐POTW ☐Distribution
☐NPDES ☐Special
☐USDA/FDA ☐State
☐RECAP/RISC ☐Other

Turn Time
5 TAT
EDD
(Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Collection Information: Date	Time	Grab / Composite	Matrix	Container: Quantity	Type P=Plastic, G=Glass, V=Vial	Pres.: HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	TSS	CBOD	~~Chloride~~	T.Phos, NH3	TVS	TS	Cyanide (1677)	Oil & Grease	E.COLI
Clarifier	6.17.19	11:05 AM	Comp	WW	1	P	NONE	X	X							
Final (Grab)	6.18.19	9:40 AM	Grab	WW	1	P	$Na_2S_2O_3$									X
Final (Grab)	6.18.19	9:40 AM	Grab	WW	1	G	H2SO4								X	
Final (Composite)	6.17.19	11:10 AM	Comp	WW	2	P	NONE	X	X	[redacted]						
Final (Composite)		11:10 AM	Comp	WW	1	P	H2SO4				X					
Influent		11:20 AM	Comp	WW	1	P	NONE	X	X							
Influent		11:20 AM	Comp	WW	1	P	H2SO4				X					
Mixed Liquor		11:15 AM	Comp	WW	1	P	NONE	X				X				
Return Sludge		11:25 AM	Comp	WW	1	P	NONE	X					X			

Comments
Samples Meet Acceptance Policy
Yes No

	Relinquished by	Date/Time	Received by	Date/Time
1	M. Cardona	6.18.19 / 9:50 AM	[illegible]	6/18/19 9:55
2	[illegible]	6/18/19 1445	[illegible]	6/18/19 1445
3				

Field Notes:

Received at lab on ice?
☒Yes ☐No Temp: 2.3c
2.3

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

8800 North US 31
Columbus, IN
47201 USA
P 812-375-0531
F 812-375-0731

328 Ley Road, Suite 100
Fort Wayne, IN
46825 USA
P 260-471-7000
F 260-471-7777

909 Executive Dr.
Warsaw, IN
46580 USA
P 574-267-3305
F 574-269-6569

3371 Cleveland Road, Suite 100A
South Bend, IN
46628-9780 USA
P 574-277-0707

2417 W. Pinhook Rd
Lafayette, LA
70508-3344 USA
P 337-235-0483
F 337-233-6540